

CLAIMS

What is claimed is:

1. A composition of matter comprising

a conjugate of a living pathogen-targeting organic moiety coupled to a radioisotope which has a half-life of less than 100 days, said conjugate being deposited on a support.

2. A composition as in claim 1 wherein the support is in the form of beads.

3. A composition as in claim 2 wherein the conjugate is bound to the support.

4. A composition of matter as in claim 3 wherein the living pathogen-targeting organic moiety targets a virus.

5. A composition of matter as in claim 4 wherein the living pathogen-targeting organic moiety comprises a human immunoglobulin or a human immunoglobulin fragment.

6. A composition of matter as in claim 1 wherein the radioisotope emits Auger electrons.

7. A composition of matter as in claim 6 wherein the radioisotope has a half-life in the range of from about 1 to about 10 days.

8. A composition of matter as in claim 7 wherein the radioisotope is selected from the group consisting of Phosphorus 32, Copper 67, Gallium 67, Bromine 77, Yttrium 90, Technetium 99, Indium 111, Iodine 125, Iodine 131, Rhenium 186, Rhenium 188, Platinum 195, Bismuth 213, and Astatine 225.

9. A composition of matter as in claim 8 wherein the radioisotope consists essentially of Iodine 131.

10. A method for treating an infectious disease caused by living blood-borne pathogens in a mammal, wherein said mammal produces antibodies in response to said living pathogens, said method comprising

obtaining antibodies from said mammal;

replicating said antibodies to produce replicated antibodies,

conjugating said replicated antibodies with a radioisotope which has a half-life of less than 100 days to produce a conjugate,

fixing said conjugate to a conjugate support to form a supported conjugate, and

passing the blood of said mammal in contact with said supported conjugate to bring said conjugate into contact with said living pathogens.

11. A method as in claim 10 wherein said supported conjugate is in the form of particles, said method further comprising

forming a bed of said particles,

flowing the blood of said mammal through said bed to form treated blood, and

returning the treated blood to said mammal.

12. A method as in claim 11 wherein the mammal is a human and the pathogen is HIV virus.

13. A method as in claim 12 wherein the antibody is selected from the group consisting of gp120 antibody and gp2G12 antibody and the radioisotope is Iodine 131.

14. A method for treating an infectious disease caused by living blood-borne pathogens in a mammal, said method comprising

identifying the blood-borne pathogens causing the infectious disease,

5 selecting a supported conjugate comprising a particle support bearing an organic moiety which is chemically selective for attachment to said living pathogens and which is conjugated to a radioisotope which has a half-life of less than 100 days,

flowing the blood of said mammal through a bed formed from particles of said supported conjugate, so that said blood-borne pathogens become associated with said radioisotope while in the bed, forming treated blood, and

10 returning the treated blood to said mammal.

15. A method as in claim 14 wherein the organic moiety is selected from the group consisting of an immunoglobulin and an immunoglobulin fragment.

16. A method as in claim 15 wherein the radioisotope emits Auger electrons.

17. A method as in claim 14 wherein at least some of the living pathogens are rendered non-viable while in the bed.

18. A method as in claim 17 wherein the living pathogen is a virus.